MFOQA
Military Flight Operations Quality Assurance Program

By Dan Steber and Jack Stewart

The following scenario for aircrew may sound familiar: The mission is over, and the debrief begins. The LSO breaks out a shopping list of problems observed with your approach and landing. You listen to his sage observations as he critiques your airspeed, altitude, and even your dance with centerline. You often think, "Is he talking about the same approach I just nailed?"

In the past, you accepted the critical review. Now, you and the LSO can play back the approach, not just through a PLAT camera, but rather with detailed information gathered from a flight-data recorder. Welcome to MFOQA.

NAVAIR is developing this program to provide timely feedback, not only for the aircrew debrief, but for the maintainers. The program will use new software with existing hardware, in multiple platforms, to record data and provide feedback to aviators and maintenance on factual performance.

Another after-flight exercise is the visit to maintenance control to write gripes. Was there really a fuel-flow split? Exactly how long did you have an EGT spike? No longer will there be questions about specific events occurring during a flight. MFOQA will show the aviators and maintainers exactly what happened and when. Specific aircrew actions (throttle and stick movements) and cockpit indications will be available for review, reducing miscommunication and improving fact-based troubleshooting.

Getting specific data to the aircrew on airspeed, altitudes, and headings will improve their learning curve and will result

Flight Data Analysis

This event is detected when the aircraft experiences high positive vertical accelerations that are greater than 6 g's.

Date	StartTime	EndTime	Duration	Min.	Max.	Avg.	Max. Exceed	Avg. Exceed
11/13/2002	00:26:45	00:26:47	00:00:02	6.01	6.84	6.44	0.84	0.44
11/14/2002	00:20:14	00:20:16	00:00:02	6.09	6.46	6.30	0.46	0.30
11/14/2002	00:24:31	00:24:34	00:00:03	6.34	6.71	6.50	0.71	0.50
11/14/2002	00:34:25	00:34:30	00:00:05	6.28	7.09	6.70	1.09	0.70
11/18/2002	00:16:24	00:16:26	00:00:02	6.09	6.22	6.17	0.22	0.17
11/18/2002	00:29:16	00:29:18	00:00:02	6.22	6.34	6.30	0.34	0.30
11/19/2002	00:27:03	00:27:04	00:00:01	6.22	6.59	6.40	0.59	0.40
11/21/2002	00:54:47	00:54:52	00:00:05	5.97	6.59	6.26	0.59	0.26
11/21/2002	00:55:34	00:55:40	00:00:06	6.09	6.46	6.27	0.46	0.27

MFOQA data records will provide feedback to aviators and maintainers.

MFOQA personnel include from left to right: Chip Brown, Bill Wescoe and Tom Matthews

Photo by Dan Steber

Playback of the mission, instrumentation, and flight performance is possible with MFOQA.

in increased proficiency—a better pilot. For maintainers, postflight information readily will be available to diagnose data on engine performance, fuel flow, navigation, G forces, and many other parameters collected on recorders.

PMA209's Director of Flight Operations, Bill Wescoe, says MFOQA will "give the aircrew and maintainers the tools to help troubleshoot discrepancies and improve performance. The postflight debrief will include data to give a snapshot of pilot and aircraft performance." This data won't be limited to helping just the aircrew and maintenance, but will also assist the operations, safety and training departments. To reflect the broad spectrum of beneficiaries, Wescoe used the acronym "MOST," meaning maintenance, ops, safety and training. An operations officer could use the information to look for efficiencies in fuel usage, flight time, and mission profiles. Critical data could be sent fleetwide to notify other squadrons of maintenance mods, inspection requirements, or servicing.

"Several years ago, we did a study on Class A flight mishaps. For the five year period ending in the fall of 2003, we had more than 200 Class A mishaps, and we believe at least 21 of them (10 percent) could have been prevented had a tool such as MFOQA been in place," said Chip Brown, the program's lead engineer and former flight-data analyst at the Naval Safety Center, who initiated the study. The intent of MFOQA is to identify human factors and trends to head off potential mishaps. Perceived performance can be contrasted to actual performance through MFOQA.

Two squadrons, one FA-18C/D and one SH-60B, currently are doing a fleet demo or "bridge" program with MFOQA. The initial results have been very positive. The *Mech* Spring 2006 issue has a feature article on HSl-41's MFOQA's efforts and can be viewed at: http://www.safetycenter.navy.mil/media/mech/issues/spring06/pdf/hsl-41leads.pdf.

The *Mech* Fall 2003 issue also included an article that provides an overview and background for the program. View this article at: http://www.safetycenter.navy.mil/media/mech/issues/fall03/pdf/mfoqa.PDF.

MFOQA became a program of record last year with passage of milestone B, which made MFOQA mandatory. The program has full funding and will be introduced to the fleet in a staggered implementation scheduled in early 2010.

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Flight, Flight-Related, and Ground Class A and B Mishaps 03/05/2007 to 06/27/2007

Class A Mishaps: 6
Class B Mishaps: 17

For a detailed description visit the statistics page at www.safetycenter.navy.mil

Printed as a supplement to *Mech* from
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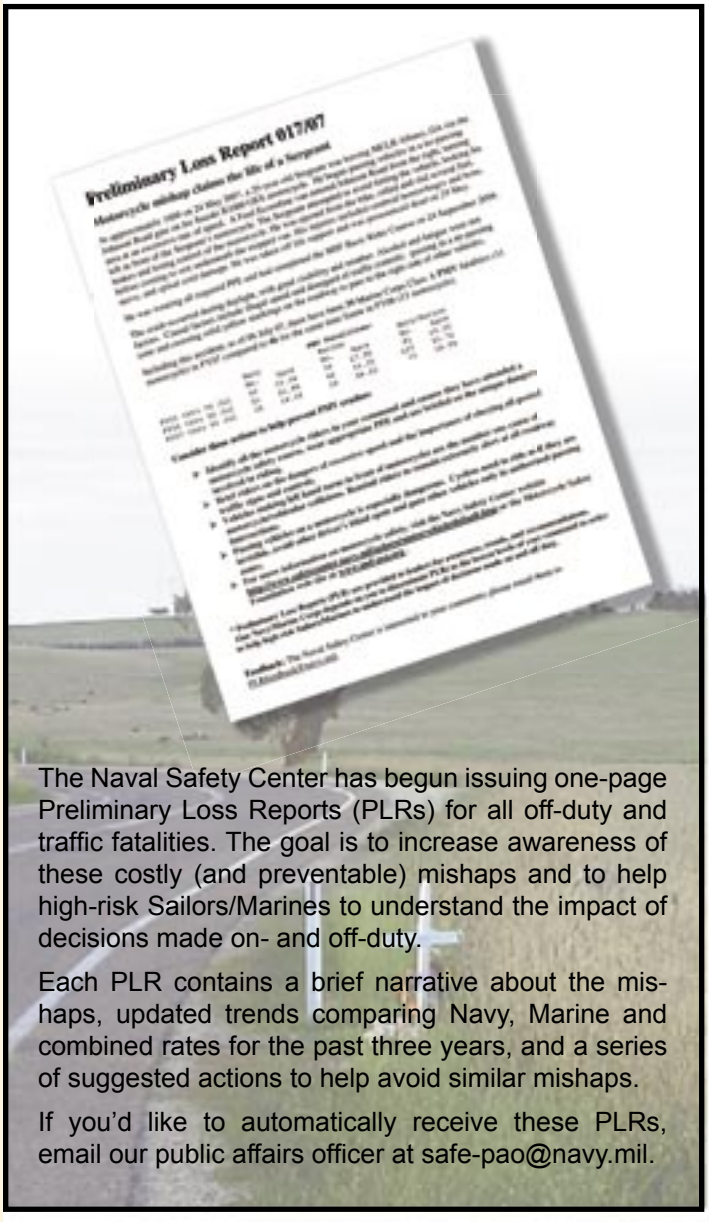

The Naval Safety Center has begun issuing one-page Preliminary Loss Reports (PLRs) for all off-duty and traffic fatalities. The goal is to increase awareness of these costly (and preventable) mishaps and to help high-risk Sailors/Marines to understand the impact of decisions made on- and off-duty.

Each PLR contains a brief narrative about the mishaps, updated trends comparing Navy, Marine and combined rates for the past three years, and a series of suggested actions to help avoid similar mishaps.

If you'd like to automatically receive these PLRs, email our public affairs officer at safe-pao@navy.mil.